

tion of buildings of absolutely non-Egyptian and more or less negro type, showing all the negro's inability to think out or carry out a coherent plan, or produce any sensible building bigger than a simple hut. There is little doubt that the Nubian population is, and has always been, fundamentally negroid, and no doubt in ancient Egyptian days it was nearer the negro than it is now. The cemetery might, from the nature of the antiquities found in it, be dated to a period contemporary with the Egyptian predynastic period. But Prof. Maciver well points out that the barbaric culture of the Nilotes, which was raised and organised into a civilisation in Egypt before the beginning of the First Dynasty, continued in its primitive form in Nubia throughout history, and even now pottery not distanty akin to the prehistoric Egyptian is still made there. So that we cannot say that primitive remains in Nubia are necessarily primeval in date. This explains the phenomenon of the "Pan-Grave People" of the XIIth Dynasty in Upper Egypt. The isolated Egyptian settlements of this people, whose pottery is so closely analogous to that of the primitive Egyptians, but whose "Middle Kingdom" date is certain, were originally discovered by Prof. Flinders Petrie. They remained an enigma until Mr. Weigall discovered that the earlier Nubian cemeteries were largely of "Pan-Grave" type, and that "Pan-Grave" pottery was common there. It was then supposed that the Egyptian "Pan-Grave" remains were the relics of Nubian conquerors at the time of the XIIth Dynasty. Prof. Maciver, following up the clue, supposes in the present volume that the Egyptian "Pan-Grave" people were Nubian potters imported into Egypt to make their special pottery (which was, in its way, finer than that of the Egyptians). To me it seems more probable that they were not merely potters, and I would see in them simply colonies of deported Nubians, brought back by the conquering Pharaohs of the XIIth Dynasty as the "living prisoners," trophies of their Nubian razzias which are often mentioned in the inscriptions, and settled in vacant lands of Upper Egypt.

The discoveries at Shablul are of importance as definitely identifying the products of a peculiar art, long known and correctly identified as of Roman date (it is especially well represented in the collections of the British Museum), as Nubian. The later specimens of the painted pottery of this style clearly connect on to the crude productions of the Coptic potters, and this was always seen, but Prof. Maciver and Mr. Woolley have shown that the same style, which is Nubian only, goes back well into the Ptolemaic period. Its earlier products are quite Egyptian or Greek in the choice of motives, but throughout the whole series there runs a note of peculiar originality of treatment which can only be due to the Nubian potter himself. This painted pottery is splendidly illustrated by coloured plates which accurately reproduce the originals. Its decoration is extremely interesting, and the comments of the authors themselves on it are most illuminating. But to quote the opinions on it of professors of artistic style who are evidently not gifted with much historical sense was unnecessary: Prof. Meurer's opinion that a certain design of a crescent with a cross (a modification of the *ankh*, the symbol of life) on this Roman-Nubian pottery is a descendant of the Minoan Cretan motive of the Double Axe above the Horns of Consecration (so well known from Dr. Evans's discoveries at Knossos) is, frankly, absurd, and we wonder that our authors did not pass over it in respectful silence. As it is, their reviewers have to chronicle it with disrespectful mirth.

Prof. Meurer has supposed that the two designs are connected because they are alike, ignoring the absence of all known connecting links between them during

the space of a millennium and a half. The only possibility of the Nubian design being descended from the Cretan would lie in an Egyptian adoption and naturalisation of the Cretan design in the time of the XVIIIth and XIXth Dynasties; and though the Egyptians did for a time take over some Cretan artistic ideas, they never took over the idea of the Double Axe above the Horns of Consecration; and naturally they did not, because they did not take over the worship of the Cretan gods, whose symbols these were (though cults akin to those of Crete may have been known in the Delta at an early period). We prefer our authors' own ideas without those of Prof. Meurer. Throughout their work they themselves had made only one remark which calls for criticism—the description of the *ankh*, the symbol of life, as the "Nile-key." The *ankh* was not a key, and had nothing to do with the Nile. It was a conventional representation of a man's girdle, with the tied ends hanging down in front.

The book concludes with a paper on the inscriptions in "Meroitic" form of the Demotic script, of which many specimens were found by the explorers, and its relation to the Meroitic hieroglyphic inscriptions, by Mr. F. Ll. Griffith. Mr. Griffith here makes the first step to a decipherment of both scripts, and has established several curious and unexpected facts with regard to them. This discussion of the relation of their language to the Nubian of Christian times, lately studied by Profs. Schäfer and Schmidt, is very suggestive.

In conclusion, Messrs. Maciver, Woolley, and Griffith must be congratulated on the production of a most interesting contribution to a little-known branch of Nilotic (if we may not, strictly, say Egyptian) archæology.

H. R. HALL.

FROM THE CAPE TO CAIRO WITH A MAGNETOMETER.

DURING the last twenty years a great many observers have carried on magnetic work in different parts of Africa. A summary of the results up to 1900 at the Cape of Good Hope has been collected and published by Prof. Morrison and the writer,¹ and one for Northern Africa by Mr. B. F. E. Keeling;² since 1898 a magnetic survey of South Africa has been in progress; between that date and 1906 observations were taken at more than four hundred stations by Prof. Morrison and the writer, with assistance at one time and another from Mr. S. S. Hough, Prof. A. Brown, Prof. L. Crawford and Mr. V. A. Löwinger. A report by the present writer on the work during this period, including a summary of the earlier work in Africa, south of the Zambezi, was published for the Royal Society at the Cambridge University Press.³

Notwithstanding the considerable amount of work done, there was, and still is, a lack of magnetic data for great tracts of what is now no longer geographically the unknown continent. With the purpose of obtaining some information in parts magnetically unknown, the writer submitted, in 1907, a scheme of work through Dr. L. A. Bauer, director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, to the trustees of that body. In this scheme he proposed to continue the line of magnetic stations already occupied between Cape Town and the Victoria Falls to Gondokoro, on the Nile. North of that it was not deemed necessary to observe, as the Survey Department of the Egyptian Government had already put forward proposals for a

¹ "Magnetic Elements at the Cape of Good Hope." By Beattie and Morrison. (Trans. S.A.P.S., vol. xiv., 1903.)

² "Magnetic Observations in Egypt." By B. F. E. Keeling. (1908.)

³ "Report of a Magnetic Survey of South Africa." By J. C. Beattie. (1909.)

magnetic survey of Egypt and the Sudan. It was intended also, should time permit, to make observations in German South-west Africa.

These proposals met with the approval of the trustees of the Carnegie Institution, and they allocated a sum of 2000*l.* for the work. In the first instance the proposals contemplated only one field-party with one observer; later, however, the writer modified his plan so as to include a second observer, in the hope of being able to have two field-parties. At his suggestion the Department of Terrestrial Magnetism in Washington appointed Prof. Morrison as second observer. The additional money necessary was provided by the Government Grant Committee of the Royal Society (250*l.*), and by Dr. L. S. Jameson and Sir Lewis Michell (100*l.*).

The work began at the end of November, 1908, when the writer left Ceres Road, in the Cape Colony, for Windhuk, in German South-west Africa. This journey lasted four months. During February and March of 1909 Prof. Morrison made observations along the railways in the northern part of the same region.

In April, 1909, repeat observations were made in Cape Colony and in Rhodesia, and Prof. Morrison also made observations between the Victoria Falls and Broken Hill, the then terminus of the Beira and Mashonaland Railways.

The two observers left Broken Hill in the beginning of May, and marched to Abercorn *via* Fort Rosebery. After Broken Hill the only means of transport was by porters; one set of instruments was carried from there more than 2000 miles, the other more than 1400, the whole distance being accomplished without mishap to any of the instruments.

At Abercorn the observers separated; Prof. Morrison proceeded to the northern end of Lake Nyasa, then down the Nyasaland plateau and the Shiré and Zambezi valleys to Chinde; from there he went by sea to Dar-es-Salaam, and made observations between it and the terminus of the railway which goes from that place inland. He was able to secure a number of observations which will be of great value for determining the secular variations of the magnetic elements in that part of the world. Finally, he made a number of observations along the Uganda Railway from Mombasa to Port Florence.

The writer went overland from Abercorn to Bismarckburg, a German station on the south shore of Lake Tanganyika. From there he marched to Tabora, an important town in German East Africa; observations could not be made along the shores of Tanganyika, as he had originally intended, because the steamer had temporarily ceased to run—the two white men on it, the captain and the engineer, having contracted sleeping sickness. From Tabora he journeyed overland to Bukoba, a German port originally founded by Emin Pasha, on the west shore of Victoria Nyanza; the march was continued along the west coast of that lake to Entebbe. At the latter place he found it was impossible to take the usual overland route to Gondokoro, on account of sleeping sickness; his caravan had to go *via* Albert Nyanza, and there he conveyed forty-five miles from Butiaba to Koba. The end of the porter transport was reached at Gondokoro, just a little more than 2000 miles from Broken Hill by the route followed. The work was brought to a close by the two observers once more meeting at Cairo, and comparing their instruments with those at Helwan and, finally, with those at Kew.

In addition to the observations taken along the routes mentioned above, a number of stations previously worked at in Cape Colony, the Transvaal, Natal and Zululand were again occupied in 1908; the cost of this was defrayed by a grant from the Royal Society (25*l.*) In all about 360 new stations were

occupied, mainly in regions which formerly were known magnetically only slightly or not at all.

The instruments used for the above observations were the same as in the earlier work in South Africa (1898–1906), and were lent to the writer by the Royal Society, the Royal Observatory of the Cape of Good Hope, and the South African College. By means of the repeat observations, the results obtained in 1909 and in previous years can be reduced to the same standard; and, further, through the comparisons at Helwan and at Kew, can be compared with much that has been done in recent years in other parts of the world.

While making the preliminary arrangements for the journey, the writer received great assistance from the Governor of the Colony of the Cape of Good Hope, Sir Walter Hely-Hutchinson, who communicated with the authorities of the various territories it was proposed to survey, and obtained permission for the observers to enter them, and to enjoy while there special privileges.

In German South-west Africa the authorities allowed the observers to travel free of charge over the Government railways; the same facilities were given by the Cape, the Central South African, the Natal, the Rhodesian, and the Uganda railways; the writer had valuable concessions while travelling in the Sudan and on the Egyptian Government steamers and railways.

In addition to these facilities, the courtesy and hospitality of the English and the German officials did much to relieve the tedium and strain incident to work of this nature in such circumstances. The writer feels that a formal recognition such as this is but a poor return for the help so willingly and generously accorded.

In conclusion, it gives the writer great pleasure to have the opportunity of thanking Mr. R. S. Woodward, the president of the Carnegie Institution, and Dr. L. A. Bauer, director of the Department of Terrestrial Magnetism of that institution, for their advice and encouragement during the progress of the work, and in particular to thank the latter for the great interest he has taken in the reduction of the results, a work which is being carried out at Washington under his direction.

J. C. BEATTIE.

SIR ROBERT GIFFEN, K.C.B., F.R.S.

THE sudden death of Sir Robert Giffen on the morning of April 12, while on a tour in Scotland accompanied by Lady Giffen, is a great loss to economic and statistical science. He joined the Statistical Society in 1867, at the age of thirty, having then already acquired reputation as a writer on financial subjects in the *Globe*, the *Fortnightly Review*, the *Economist*, and the *Spectator*. He was elected a member of the council and one of the secretaries of the society in 1876, in which year he joined the Civil Service, and was appointed chief of the Statistical Department of the Board of Trade, and one of the delegates of the Government of England to the International Statistical Congress at Buda-Pest. He submitted to that congress "*Considérations sous Forme de Tableaux pour la Préparation d'une Statistique internationale des Chemins de Fer*," and was appointed a member of the permanent committee. To the Social Science Congress at Liverpool, in the same year, he contributed a paper on the causes and effects of the depreciation of silver, how far is it an evil, and what are the means of remedying the evil? In his official capacity, he devoted himself with zeal to rectifying and harmonising governmental statistics, and to diminishing the overlapping and cost of parliamentary returns. For example, he pointed out that the statis-